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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/997,854	11/29/2001	Jin Udagawa	4641-61268	6688

7590

09/08/2003

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EXAMINER

LUU, THANH X

ART UNIT

PAPER NUMBER

2878

DATE MAILED: 09/08/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

09/997,854

Applicant(s)

UDAGAWA ET AL.

Examiner

Thanh X Luu

Art Unit

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-30 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-30 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 29 November 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.  
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

### Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☐ All b) ☐ Some \* c) ☒ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).  
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

### Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 032002.
- 4) ☐ Interview Summary (PTO-413) Paper No(s) \_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_

## DETAILED ACTION

### *Specification*

1. The title of the invention is not descriptive. A new title is required that is clearly indicative of the invention to which the claims are directed.

### ***Claim Rejections - 35 USC § 102***

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. Claims 1-6, 8, 11-14, 16-20 are rejected under 35 U.S.C. 102(b) as being anticipated by Nakasuji (U.S. Patent 6,117,600).

Regarding claims 1-6, 8, 11-14, 16-20 Nakasuji discloses (see Figure 3B or 3C) pattern defined on a stencil reticle, the pattern comprising pattern elements defined as respective apertures in the stencil reticle, each of the pattern elements being split into respective pattern-element portions (34 or 37), separated by respective girders (at 39B or between the portions) formed from a membrane of the stencil reticle, so as to avoid forming membrane islands in the reticle and to prevent stress-based deformation of the pattern elements in the reticle. Nakasuji further discloses (see Figure 3C) the pattern elements include pattern elements defining corresponding mark elements that intersect each other and the girders extend across pattern elements at the regions of intersection. Nakasuji further discloses (see Figure 3B) the girders extend across pattern elements displaced from the regions of intersections. Nakasuji also discloses

(see column 4, line 67) a scattering stencil reticle. In addition, Nakasuji discloses (see Figure 1C) the pattern elements are non-intersecting and a first group (3) separated but oriented perpendicularly to a second group (4). A substrate is inherently imprinted with the mark since a stencil reticle is produced.

***Claim Rejections - 35 USC § 103***

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 7, 9, 10, 15 and 21-30 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nakasuji.

Regarding claims 7 and 15, Nakasuji discloses the claimed invention as set forth above. Nakasuji does not specifically disclose the width of the girders as claimed. However, providing alignment marks that are less than a resolution limit of an alignment detection unit is well known. It would have been obvious to a person of ordinary skill in the art at the time the invention was made to provide the width of the girders as claimed in the apparatus of Nakasuji in order to provide for the alignment detection unit to distinguish between different marks and improve detection.

Regarding claims 9 and 10, Nakasuji discloses the claimed invention as set forth above. Nakasuji does not specifically disclose a pattern device in addition to the mark. However, providing device patterns on reticles with other marks are well known in the art. It would have been obvious to a person of ordinary skill in the art at the time the

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invention was made to provide device patterns on the reticle in the apparatus of Nakasuji to reduce the amount of time required for additional device pattern exposures.

Regarding claims 21-30, Nakasuji discloses the claimed invention as set forth above. Nakasuji does not specifically disclose detecting the mark as an alignment mark and to determine alignment. However, alignment detection in exposure devices are notoriously well known. It would have been obvious to a person of ordinary skill in the art at the time the invention was made to detect alignment in the apparatus of Nakasuji to improve the accuracy and precision of exposure.


### ***Conclusion***

6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Thanh X. Luu whose telephone number is (703) 305-0539. The examiner can normally be reached on Monday-Friday from 6:30 AM - 4:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Porta, can be reached on (703) 308-4852. The fax phone number for the organization where the application or proceeding is assigned is (703) 308-7722.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0956.

txl  
September 3, 2003

  
Thanh X. Luu  
Patent Examiner